

New records of portunid crabs (Decapoda: Brachyura: Portunidae) from Sergipe, NE Brazil

Leonardo Cruz da Rosa

Universidade Federal de Sergipe, Departamento de Engenharia de Pesca e Aquicultura. Av. Marechal Rondon, s/n. CEP 49100-000. São Cristóvão, SE, Brazil.

* Corresponding author: E-mail: leonardo.rosa@rocketmail.com

ABSTRACT: Four portunid crab species, including an exotic one, are recorded for the first time from the state of Sergipe, NE Brazil. Although common along the Brazilian coast, the new records of the crabs *Callinectes bocourti* A. Milne-Edwards, 1879, *C. exasperatus* (Gerstaecker, 1856), *C. marginatus* (A. Milne-Edwards, 1861) and *Charybdis hellerii* (A. Milne-Edwards, 1867) (Decapoda, Brachyura, Portunidae) reflect the poor knowledge about crustacean fauna in the state of Sergipe, and reinforce the need for systematic surveys to better understand the local biodiversity.

Portunid crabs are characterized by the flattening of the fifth pair of legs into broad swimming paddles, carapace usually flattened, front dentate or lobate, orbits and eyestalks moderately large or elongate and, anterolateral margins dentate, often terminating in strong lateral spine (Williams 1984). This group includes several species of economic importance, such as those of the genus *Callinectes* Stimpson, 1860 (Williams 1974). Besides their economic and ecological significance, the portunid fauna inhabiting the coast of the state of Sergipe (NE Brazil) is still poorly known. Based on previous checklists and on recent records, seven species of portunid crabs [*i.e.*, *Achelous spinimanus* (Latreille, 1819), *Achelous tumidulus* Stimpson, 1871, *Arenaeus cibrarius* (Lamarck, 1818), *Callinectes danae* Smith, 1869, *Callinectes ornatus* Ordway, 1863, *Callinectes sapidus* Rathbun, 1896 and *Portunus aniceps* (Saussure, 1858)] have been previously recorded along the coast of Sergipe (Coelho *et al.* 2004; 2008; Rosa 2013).

In this scientific note, four portunid species, including one exotic, are herein reported for the first time for the state of Sergipe. All examined individuals were caught during fishing hauls, using a beach seine net 30 m long and 2.8 m height with a stretched mesh size of 5 mm, carried out along estuarine regions of three local rivers (*i.e.*, Real, Sergipe and Vaza-Barris) from 2011 to 2013. The crabs were kept in ice and sent to identification. At laboratory, the specimens were identified according to Melo (1996) and Tavares and Mendonça Jr. (2011), then fixed in formaldehyde 5% and deposited in the carcinological collection of the Núcleo de Engenharia de Pesca (NEP-CRUST), Universidade Federal de Sergipe, Municipality of São Cristóvão, Sergipe, Brazil.

New records:

Infraorder Brachyura Linnaeus, 1758
Section Podotremata Guinot, 1977
Superfamily Portunoidea Rafinesque, 1815
Family Portunidae Rafinesque, 1815
Subfamily Portuninae Rafinesque, 1815

Callinectes bocourti A. Milne-Edwards, 1879 (Figure 1a,b)

Material examined: one male (NEP-CRUST 0014); width of the carapace at the base of the largest lateral spine measuring 89.8 mm, length of carapace of 52.79 mm and wet weight of 106.2 g, collected at the estuary of the Sergipe River (10°45'58" S, 37°09'14" W), on April 6th, 2011.

Previous distribution along the NE Brazilian coast: Pernambuco (Rathbun 1930); Maranhão and Alagoas (Williams 1974); Ceará (Fausto Filho 1966); Rio Grande do Norte (Sankarankutty *et al.* 1991); Bahia (Moreira 1901).

Callinectes exasperatus (Gerstaecker, 1856) (Figure 1c,d)

Material examined: eight females (NEP-CRUST 0015-0022); width and length of the carapace ranging from 67.6 to 82.9 mm and from 40.29 to 49.47 mm, respectively; wet weight ranging from 44.0 to 80.5 g. Collected at the estuary of the Vaza-Barris River (11°06'25" S, 37°12'08" W), on January 16th, 2013.

Previous distribution along the NE Brazilian coast: Maranhão (Ramos-Porto *et al.* 1978); Rio Grande do Norte (Rathbun 1930); Pernambuco (Moreira 1901); Alagoas (Coelho *et al.* 1990); Bahia (Moreira 1901).

Callinectes marginatus (A. Milne-Edwards, 1861) (Figure 1e,f)

Material examined: four males (NEP-CRUST 0023-0026); width and length of the carapace ranging from 52.4 to 65.1 mm and from 28.70 to 35.46 mm, respectively; wet weight ranging from 13.5 to 37.5 g. Collected at the estuary of the Real River (11°28'04" S, 37°23'11" W), on January 30th, 2013.

Previous distribution along the NE Brazilian coast: Ceará [Williams (1974), as *C. larvatus*]; Rio Grande do Norte and Alagoas [Rathbun (1930), as *C. larvatus*]; Paraíba (Rathbun 1900); Pernambuco (Moreira 1901); Bahia [Smith (1869), as *C. larvatus*].

Subfamily Thalamitinae Paul'son, 1875

Charybdis hellerii (A. Milne-Edwards, 1867) (Figure 1g,h)

Material examined: one immature female (NEP-CRUST 0027); width and length of the carapace measuring 26.8 mm and 18.64 mm, respectively; wet weight of 3.16 g, collected at the estuary of the Vaza-Barris River ($11^{\circ}06'25''$ S, $37^{\circ}12'08''$ W), on January 16th, 2013.

Previous distribution along the NE Brazilian coast: Maranhão (Feres *et al.* 2007); Ceará (Bezerra and Almeida

2005); Rio Grande do Norte (Ferreira *et al.* 2001); Pernambuco (Coelho and Santos 2003); Alagoas (Calado 1996); Bahia (Carqueija and Gouvêa 1996).

The portunid crab *C. hellerii* is an exotic species native to the Indo-West Pacific Ocean and was reported for the first time by Calado (1996), Carqueija and Gouvêa (1996), and Tavares and Mendonça Jr (1996) in Alagoas, Bahia and

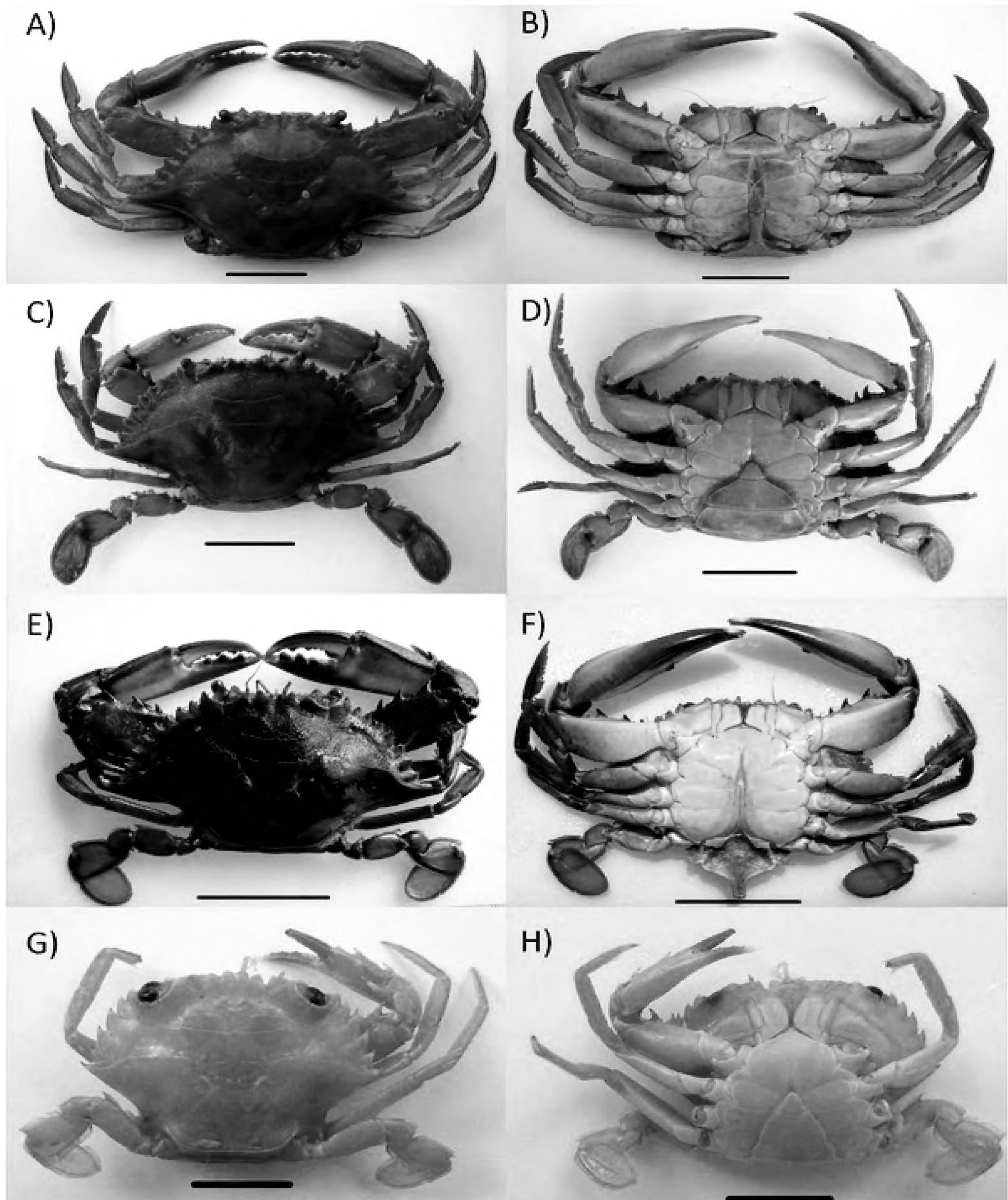


FIGURE 1. Portunid crabs from state of Sergipe: a,b) male of *Callinectes bocourtii* A. Milne-Edwards, 1879 (NEP-CRUST 0014) collected in the Sergipe River; c,d) female of *Callinectes exasperatus* (Gerstaecker, 1856) (NEP-CRUST 0015) collected in the Vaza-Barris River; e,f) male of *Callinectes marginatus* (A. Milne-Edwards, 1861) (NEP-CRUST 0023) collected in the Real River; g,h) immature female of *Charybdis hellerii* (A. Milne-Edwards, 1867) (NEP-CRUST 0027). Immature female collected in the Vaza-Barris River. Scales: a-f = 3cm; g,h = 1cm.

Rio de Janeiro, respectively.

Currently, this species has become successfully established along the Brazilian coast (Tavares 2011), which is confirmed with this new occurrence for Sergipe.

Besides their wide distribution, the present records of *C. bocourtii*, *C. marginatus*, *C. exasperatus* and *Charybdis hellerii* represent the first ones for the state of Sergipe, filling a gap in the species distribution along the NE Brazilian coast, as well as increasing to 11 the number of species of the Portunidae family known for the state. If we considerate the total number of portunid species found along NE Brazilian coast (*i.e.*, 21 species) as well as recorded from Alagoas (14 spp.) and Bahia (15 spp.) states (see Coelho et al. 2008), this number should increase with more systematic surveys.

In the last carcinological survey carried out along Sergipe coast, Coelho et al. (1994) recorded 11 new crustacean species from shrimp by-catch samples. According to these authors, although expected the presence of many crustacean species which occur at neighbor states still waiting to be confirmed. For example, the portunid crabs *Achelous ordwayi* (Stimpson 1860) and *A. spinicarpus* (Stimpson 1871) have been cited to both Alagoas and Bahia states (Coelho et al. 2008) but haven't been recorded to Sergipe coast yet.

Despite its small coastal line (*ca.* 160 km), Sergipe has also five estuarine systems with large mangroves areas which have been poorly studied. Thus, these findings confirm how poor is the knowledge of crustacean fauna for the state and reinforce the need for systematic surveys to better understand local biodiversity.

LITERATURE CITED

- Bezerra, L.E.A. and A.O. Almeida. 2005. Primeiro registro da espécie Indo-Pacífica *Charybdis hellerii* (A. Milne-Edwards, 1867) (Crustacea: Decapoda: Portunidae) para o litoral do Estado do Ceará. *Tropical Oceanography* 33: 33–38.
- Calado, T.C.S. 1996. Registro de *Charybdis hellerii* (Milne Edwards, 1867) em águas do litoral brasileiro (Decapoda: Portunidae). *Boletim de Estudos de Ciências do Mar* 9: 175–180.
- Carqueija, C.R.G. and E.P. Gouvêa. 1996. A ocorrência, na costa brasileira, de um Portunidae (Crustacea, Decapoda), originário do Indo-Pacífico e Mediterrâneo. *Nauplius* 4: 105–112.
- Coelho, P.A., M. Ramos-Porto and G.A.S. Melo. 1990. Crustáceos decápodos do estado de Alagoas. *Anais da Sociedade Nordestina de Zoologia* 3(3): 21–34.
- Coelho, P.A. and M.C.F. Santos. 2003. Ocorrência de *Charybdis hellerii* (Milne Edwards, 1867) (Crustacea, Decapoda, Portunidae) no litoral de Pernambuco. *Boletim Técnico-Científico do CEPENE* 11: 167–173.
- Coelho, P.A., A.O. Almeida and L.E.A. Bezerra. 2008. Checklist of the marine and estuarine Brachyura (Crustacea: Decapoda) of northern and northeastern Brazil. *Zootaxa* 1956: 1–58.
- Coelho, P.A., M.C.F. Santos, A.E.T.S. Freitas, and S.M. Silva. 2004. Crustáceos decápodos coletados no Estado de Sergipe - Brasil. *Boletim Técnico-Científico do CEPENE* 12(1): 81–90.
- Fausto Filho, J. 1966. Primeira contribuição ao inventário dos crustáceos decápodos marinhos do Nordeste Brasileiro. *Arquivos da Estação de Biologia Marinha da Universidade Federal do Ceará* 6: 31–37.
- Feres, S.J.C., A.T.L. Lopes and L.A. Santos. 2007. Primeiro registro de *Charybdis hellerii* (Milne Edwards, 1867) para o litoral Maranhense - Brasil (Crustacea, Decapoda, Portunidae). *Boletim do Laboratório de Hidrobiologia* 20: 77–82.
- Ferreira, A.C., C. Sankarankutty, I.M.C. Cunha and F.T. Duarte. 2001. Yet another record of *Charybdis helleri* (A. Milne Edwards) (Crustacea, Decapoda) from the northeast of Brazil. *Revista Brasileira de Zoologia* 18: 357–358.
- Melo, G.A.S. 1996. *Manual de identificação dos Brachyura (caranguejos e siris) do litoral brasileiro*. São Paulo: Plêiade. 604 pp.
- Moreira, C. 1901. Contribuições para o conhecimento da fauna brasileira. Crustaceos do Brazil. *Archivos do Museu Nacional* 11: 1–151.
- Ramos-Porto, M., M.M. Ferreira-Correia and N.R. Sousa. 1978. Levantamento da fauna aquática da ilha de São Luís (Estado do Maranhão, Brasil). II. Crustacea. *Boletim do Laboratório de Hidrobiologia* 2: 77–88.
- Rathbun, M.J. 1900. The decapod and stomatopod Crustacea. I. Results of the Branner-Agassiz Expedition to Brazil. *Proceedings of the Washington Academy of Sciences* 2: 133–156.
- Rathbun, M.J. 1930. The cancrinid crabs of America of the families Euryalidae, Portunidae, Atelecyclidae, Cancridae and Xanthidae. *Bulletin of the United States National Museum* 152: 1–609.
- Rosa, L.C. 2013. Crustacea, Decapoda, Portunidae, *Callinectes sapidus* Rathbun, 1896: new record and filling distribution gaps. *Check List* 9(2): 427–429.
- Sankarankutty, C., A.G. Freire and L.C. Santiago. 1991. On the taxonomy and distribution of *Callinectes* spp. in the state of Rio Grande do Norte. *Revista Brasileira de Zoologia* 8: 17–22.
- Smith, S.I. 1869. Notice of the Crustacea collected by Prof. C. F. Hartt on the coast of Brazil in 1867. *Transactions of the Connecticut Academy of Arts and Sciences* 2: 1–41.
- Tavares, M. 2011. Alien Decapod Crustaceans in the Southwestern Atlantic Ocean; pp. 251–267, in: B. Galil, P.F. Clark and J.T. Carlton (ed.). *In the Wrong Place - Alien Marine Crustaceans: Distribution, Biology and Impacts*. Dordrecht: Springer.
- Tavares, M.D. and J.B. Mendonça Jr. 1996. *Charybdis hellerii* (A. Milne Edwards, 1867) (Brachyura: Portunidae), eight nonindigenous marine decapods recorded from Brazil. *Crustacean research* 25: 151–157.
- Tavares, M. and J.B. Mendonça Jr. 2011. The occurrence of the Indo-Pacific swimming crab *Scylla serrata* (Forskål, 1775) in the Southwestern Atlantic (Crustacea: Brachyura: Portunidae). *Aquatic Invasions* 6(S1): 49–51.
- Williams, A.B. 1974. The swimming crabs of the genus *Callinectes* (Decapoda: Portunidae). *Fishery Bulletin* 72(3): 685–798.
- Williams, A.B. 1984. *Shrimps, Lobsters and Crabs of the Atlantic coast of the Eastern United States, Maine to Florida*. Washington: Smithsonian Institution Press. 550 pp.

RECEIVED: August 2013

ACCEPTED: February 2014

PUBLISHED ONLINE: May 2014

EDITORIAL RESPONSIBILITY: Vinícius de Queiroz